

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Application Review**

**Issue Date:**

**Region:** Washington Regional Office  
**County:** Martin  
**NC Facility ID:** 5900069  
**Inspector's Name:** Betsy Huddleston  
**Date of Last Inspection:** 03/11/2020  
**Compliance Code:** 3 / Compliance - inspection

<b>Facility Data</b>	<b>Permit Applicability (this application only)</b>
<p><b>Applicant (Facility's Name):</b> Domtar Paper Company, LLC</p> <p><b>Facility Address:</b>                  Domtar Paper Company, LLC                  NC Highway 149 North                  Plymouth, NC 27962</p> <p><b>SIC:</b> 2611 / Pulp Mills  <b>NAICS:</b> 322121 / Paper (except Newsprint) Mills</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b>  <b>Fee Classification: Before:</b> Title V <b>After:</b></p>	<p><b>SIP:</b></p> <p><b>NSPS:</b></p> <p><b>NESHAP:</b></p> <p><b>PSD:</b></p> <p><b>PSD Avoidance:</b></p> <p><b>NC Toxics:</b></p> <p><b>112(r):</b></p> <p><b>Other:</b></p>

<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<p><b>Application Number:</b> 5900069.20B  <b>Date Received:</b> 06/12/2020  <b>Application Type:</b> Modification  <b>Application Schedule:</b> TV-Reopen for Cause  <b>Existing Permit Data</b>  <b>Existing Permit Number:</b> 04291/T47  <b>Existing Permit Issue Date:</b> 08/06/2019  <b>Existing Permit Expiration Date:</b> 09/30/2022</p>
Diane Hardison Environmental Manager (252) 793-8611 PO Box 747 Plymouth, NC 27962	Everick Spence Mill Manager (252) 793-8111 PO Box 747 Plymouth, NC 27962	Diane Hardison Environmental Manager (252) 793-8611 PO Box 747 Plymouth, NC 27962	

**Total Actual emissions in TONS/YEAR:**

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	871.97	1627.04	696.56	7218.26	504.99	376.70	255.86 [Methanol (methyl alcohol)]
2017	769.95	1806.43	701.08	8676.89	551.61	439.55	302.47 [Methanol (methyl alcohol)]
2016	715.26	1828.25	722.00	8993.07	531.43	458.32	323.65 [Methanol (methyl alcohol)]
2015	739.44	1875.67	806.12	6803.05	557.95	473.97	353.81 [Methanol (methyl alcohol)]
2014	664.83	2029.18	756.56	5434.00	577.58	425.40	321.19 [Methanol (methyl alcohol)]

<p><b>Review Engineer:</b> Heather Sands</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>	<p><b>Comments / Recommendations:</b></p> <p>Issue 04291/T48  <b>Permit Issue Date:</b>  <b>Permit Expiration Date:</b></p>
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## I. Purpose of Application

Domtar Paper Company, LLC (Domtar) is an integrated Kraft pulp mill located in Plymouth, Martin County, North Carolina. Domtar currently holds Title V Permit No. 04291T47, with an expiration date of the earlier of September 30, 2022, or renewal of Permit No. 04291T42. This permit modification is being made under 15A NCAC 02Q .0517(a)(4) – Reopening for Cause. On June 11, 2020, NC DAQ notified Domtar of its intent to reopen and revise permit for cause to address permit language associated with the 2006 prevention of significant deterioration (PSD) significant modification that was inadvertently removed from the Title V Air Permit No. 04291T37, issued May 31, 2012.

## II. Facility Description

As currently permitted, Domtar controls process gas emissions from various sources throughout the mill, called low volume, high concentration (LVHC) gases, by burning them in the No. 5 Lime Kiln. This emission reduction is necessary to demonstrate compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) From the Pulp and Paper Industry as issued under 40 CFR Part 63, Subpart S (Subpart S). Prior to combustion in the lime kiln, the LVHC gases pass through a white liquor (caustic) scrubber (WLS). The mill is also permitted to burn the LVHC gases in the No. 2 Hog Fuel Boiler as a backup to the lime kiln.

Combustion of the LVHC gases in the boiler as a backup to the No. 5 Lime Kiln was initially permitted under PSD Permit No. 04291R33, issued on December 29, 2006. Domtar conducted a PSD analysis, which was presented in the initial PSD permit application (No. 5900069.06B), and determined that the emissions of new source review (NSR) regulated pollutants associated with the proposed project exceeded the PSD significant emission rate (SER) for PM (PM<sub>10</sub>), SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, and TRS. Therefore, the required best available control technology (BACT) analysis was conducted for each of these pollutants. The results of the BACT analysis are presented in Table 1. As shown in Table 1, BACT for TRS was 235 pounds per 24 hours (lb/24-hour) and the method of control was the use of a white liquor scrubber prior to combustion of TRS gases in the boiler. The results of the BACT analysis were incorporated into Permit No. 04291R33. The permit language required the LVHC gases to be routed through a white liquor scrubber prior to combustion in the No. 2 Hog Fuel Boiler, except for periods of scrubber maintenance.

**Table 1. Control Method and BACT**

NSR Regulated Pollutant	Control Method	BACT
PM <sub>10</sub>	Series installation of multicyclone, electroscrubber and associated fabric filter	0.1 lb/MMBtu
SO <sub>2</sub>	Combination firing of coal and oil with bark/woodwaste	1.2 lb/MMBtu for coal/wood 0.8 lb/MMBtu for oil/wood
H <sub>2</sub> SO <sub>4</sub>	Combination firing and TRS control	339 lb H <sub>2</sub> SO <sub>4</sub> mist per 24 hours (0.0159 lb/MMBtu)
TRS	White liquor scrubber except for during periods of maintenance prior to combustion of LVHC gases in boiler	235 lb TRS per 24 hours (0.0105 lb/MMBtu)

On May 31, 2012, Domtar was issued its initial Title V Air Permit, No. 04291T37. In the conversion from the previous Permit No. 04291R36 (which contained the same language as R33) to the Title V Air Permit, the language requiring the LVHC gases to be treated in the WLS prior to combustion in the No. 2 Hog Fuel Boiler was inadvertently removed.

Therefore, NC DAQ determined that it was necessary to reopen the Domtar Title V permit per 15A NCAC 02Q .0517(a)(4) to restore the Agency text and intent of the previously issued PSD permit. On June 11, 2020, NC

DAQ sent Domtar a notification of its intent to open the permit within 60 days. Specifically, NC DAQ stated that the following changes would be made to the permit:

- Modify the No. 2 Hog Fuel Boiler description in the Section 1.0 equipment table by adding the underlined and italicized text as follows: "...HVLC/ Low Volume High Concentration (LVHC) gases *from white liquor scrubber except for periods of maintenance*/Stripper Off Gas (SOG) gases-fired...." Adding this language will restore the original text and the intent of the previously issued PSD permit.
- In Section 2.1 A.6, revise the control method for TRS BACT by adding the underlined and italicized text: "good combustion practices *and white liquor scrubber.*" Adding this text will restore the conclusions in the final determination that BACT for TRS is to be achieved with the use of white liquor scrubber (except for during scrubber maintenance) in addition to a well operated boiler using good combustion control practices.
- Include in this PSD condition a requirement to conduct a performance test on the No. 2 Hog Fuel Boiler, specifically bypassing the scrubber and burning LVHC gases directly in the boiler to provide assurance that compliance with the existing TRS BACT of 235 lb/24-hour basis is maintained without the use of scrubber during maintenance and to establish operating parameters. This performance test will be required to be completed within 180 days of the issuance of the revised permit.
- Include inspection and monitoring requirements for the white liquor scrubber to ensure proper operation/control of emissions to minimize the occurrence of unnecessary maintenance events. This will include a performance test to reestablish or confirm the operating parameter for the scrubber.
- Update Section 2.1 A.6 to be consistent with current NC DAQ shell language.

In the June 11<sup>th</sup> letter, DAQ also notified Domtar of their option to waive the 60-day notice to expedite the permitting process. Domtar waived the 60-day notice period in a letter dated June 12, 2020.

As discussed above, the modifications being made to the permit are to reinstate the PSD language that reflects the BACT determination from the initial PSD permit for the combustion of LVHC gases in the No. 2 Hog Fuel Boiler. None of the changes impact any State or Federal regulation applicability or compliance and as such, a regulatory analysis will not be included in this permit review.

### III. Application History

June 1, 2020	DAQ participated in a phone call with personnel from Domtar, and their consultant, All4. The purpose of the call was to discuss the use of the white liquor scrubber when burning LVHC in the No. 2 Hog Fuel Boiler. Domtar noted that they were recording and reporting to the Washington Regional Office (WaRO) whenever the LVHC gases were burned in the No. 2 Hog Fuel Boiler without passing through the scrubber, but that the permit did not specify that the use of the scrubber was required.
June 11, 2020	DAQ provided Domtar the required 60-day notice of its intent to reopen the permit for cause under 15A NCAC 02Q .0517(a)(4).
June 12, 2020	DAQ received a letter via email from Domtar waiving the 60-day notification period.
June 19, 2020	DAQ received the original letter from Domtar waiving the 60-day notification period.
July 16, 2020	Draft permit and permit review sent to Domtar and Washington Regional Office (WaRO) for review.
July 17, 2020	Comments from WaRO were received. Comments were primarily grammatical in nature and were addressed in the permit and permit review as suggested.
July 21, 2020	Comments from the facility were received. Comments were primarily grammatical in nature and were addressed in the permit and permit review as suggested.

- XXXX YY, 2020** Draft permit sent to public notice.
- XXXX YY, 2020** Public comment period ends. *Summarize comments received.*
- XXXX YY, 2020** EPA comment period ends. *Summarize comments received.*
- XXXX YY, 2020** Permit issued.

#### IV. Permit Modifications

The following changes were made to the Domtar Paper Company – Plymouth, Air Permit No. 04291T47:

Pages	Section	Description of Changes
Cover letter	NA	<ul style="list-style-type: none"> <li>Updated permit revision and dates.</li> </ul>
Cover Letter Attachment	Insignificant Activities list and Summary of changes to permit	<ul style="list-style-type: none"> <li>Updated summary of changes to permit</li> </ul>
Permit Cover	NA	<ul style="list-style-type: none"> <li>Revised permit application number and dates.</li> </ul>
1 – 113	All	<ul style="list-style-type: none"> <li>Updated Permit Revision Number in header.</li> <li>Updated language to current permit shell.</li> </ul>
3 – 16	Section 1	<ul style="list-style-type: none"> <li>Modified the No. 2 Hog Fuel Boiler description in the Section 1.0 equipment table by adding the underlined and italicized text as follows: "...HVLC/ Low Volume High Concentration (LVHC) gases <i>from white liquor scrubber except for periods of maintenance</i>/Stripper Off Gas (SOG) gases-fired...."</li> <li>Modified the control descriptions of the sources LVHC gases to include the white liquor scrubber prior to combustion in the No. 2 Hog Fuel Boiler.</li> </ul>
17 – 35	Section 2.1 A	<ul style="list-style-type: none"> <li>In condition A.6, revised the control method for TRS BACT by adding the underlined and italicized text: "good combustion practices <i>and white liquor scrubber.</i>"</li> <li>Added a requirement to condition A.6 to require a performance test on the No. 2 Hog Fuel Boiler specifically bypassing the white liquor scrubber and burning LVHC gases in the boiler.</li> <li>Added a requirement to condition A.6 to require a performance test while burning LVHC gases from the white liquor scrubber to reestablish or confirm the white liquor scrubber minimum flowrate on a 3-hour rolling average basis.</li> <li>Added inspection and monitoring requirements in condition A.6 for the white liquor scrubber</li> </ul>

#### V. Facility Emissions Review

The table on the first page of this permit review presents the criteria pollutant (plus total HAP) from the latest available reviewed facility emissions inventory (2018). The permit modifications associated with this permit action do not result in increases in emissions above these 2018 levels.

#### VI. Facility Compliance Status

NC DAQ has reviewed the compliance status of this facility. The most recent full compliance evaluation was completed August 15, 2019. Betsy Huddleston of the WaRO indicated that the facility appeared to be in compliance with the permit conditions and applicable regulations at the time of the inspection with the exception of a NOV issued on December 17, 2019, for a failed Subpart MM particulate test on the lime kiln that was conducted on June 24/25, 2019.

The following is the five-year compliance history for Domtar.

- A NOV was issued on December 9, 2016, because downtime of the NO<sub>x</sub> CEMS installed on the No. 2 Hog Fuel Boiler exceeded the DAQ guideline level of 6 percent for demonstration of proper operation and maintenance practices. The NOV was resolved as of January 11, 2017.

- A NOV was issued on February 24, 2017, because downtime of the NO<sub>x</sub> CEMS installed on the No. 1 Hog Fuel Boiler exceeded the DAQ guideline level of 6 percent for demonstration of proper operation and maintenance practices. The NOV was resolved as of February 24, 2017.
- A NOV was issued on September 7, 2018, for incomplete records associated with secondary voltage monitoring of the No. 2 Hog Fuel Boiler electroscrubber modules. A civil penalty in the amount of \$9,456 was paid in full and the NOV was closed on April 2, 2019.
- A NOV/NRE was issued on September 8, 2017, for exceedance of the NSPS Subpart BB TRS limit on the No. 5 Lime Kiln, exceedance of the NSPS Subpart D NO<sub>x</sub> limit on the No. 1 Hog Fuel Boiler, and exceedance of the NSPS Subpart D opacity limit on the No. 1 Hog Fuel Boiler. A civil penalty in the amount of \$19,837, including costs, was issued on December 13, 2017. The civil penalty was paid in full and the NOV/NRE was closed on March 3, 2018.
- A NOV was issued on November 28, 2018, because downtime of the TRS CEMS installed on the No. 5 Lime Kiln exceeded the DAQ guideline level of 6 percent for demonstration of proper operation and maintenance practices. The NOV was resolved as of January 11, 2019.
- A NOV/NRE was issued on March 4, 2019, for exceedances of the NSPS opacity emission standards applicable to the No. 1 Hog Fuel Boiler and No. 2 Hog Fuel Boiler NO<sub>x</sub> CEM downtime. A civil penalty in the amount of \$22,309, including costs, was issued on June 13, 2019. The civil penalty was paid in full and the NOV/NRE was closed on July 12, 2019.
- A NOV was issued on December 17, 2019, for a failed Subpart MM particulate test that was conducted June 24 through June 25, 2019. A retest on July 31, 2019 was successful. This NOV was resolved on December 17, 2019.
- A NOV was issued March 16, 2020, for failure to comply with the NO<sub>x</sub> emission limit under NSPS Subpart D. This NOV was resolved on May 5, 2020.

## VII. Draft Permit Review Summary

The Permittee was sent copies of the draft permit and permit review on July 16, 2020. Editorial comments from the Permittee were received on July 21, 2020. Comments were primarily grammatical in nature and were addressed in the permit and permit review as suggested.

Copies of the draft permit and permit review were sent to the WaRO on July 16, 2020. Comments from the WaRO were received on July 17, 2020. Comments were primarily grammatical in nature and were addressed in the permit and permit review as suggested.

## VIII. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 15A NCAC 02Q .0521 above.

The Commonwealth of Virginia is an affected area within approximately 50 miles of the facility.

Notice of the DRAFT Title V Permit to Affected States ran from XXXX YY, 2020, to XXXX YY, 2020. *Summarize comments from Affected States.*

Public Notice of the DRAFT Title V Permit ran from XXXX YY, 2020, to XXXX YY, 2020. *Summarize public comments.*

EPA's 45-day review period ran concurrent with the 30-day Public Notice, from XXXX YY, 2020, to XXXX YY, 2020. *Summarize comments from EPA and U.S. EPA Region 4 regarding the DRAFT Title V Permit.*

## **IX. Conclusions, Comments and Recommendations**

### **PE Seal**

Pursuant to 15A NCAC 02Q .0112 "Application requiring a Professional Engineering Seal," a professional engineer's seal (PE Seal) is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in Rule .0103 of this Section that involve:

- (1) design;
- (2) determination of applicability and appropriateness;
- (3) or determination and interpretation of performance; of air pollution capture and control systems.

A professional engineer's seal (PE Seal) was **NOT** required for this modification.

### **Zoning**

A Zoning Consistency Determination per 02Q .0304(b) was **NOT** required for the Permit Application No. 5900069.20B because there was no construction involved with this permit modification.

### **Recommendations**

This permit modification application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

WaRO has received a copy of this permit and submitted comments that were incorporated as described in Section VII.

Recommend Issuance of Permit No. 04921T48.